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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,315	02/27/2004	Juanita M. Cassidy	2000-IP-001853U1	9195

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EXAMINER

SUCHFIELD, GEORGE A

ART UNIT PAPER NUMBER

3676

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/789,315		CASSIDY ET AL.	
	Examiner		Art Unit	
	George Suchfield		3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-86 is/are pending in the application.
- 4a) Of the above claim(s) 24-86 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-86 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/27/04</u> . | 6) <input type="checkbox"/> Other: _____ |

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Art Unit: 3676

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-66, drawn to a method of treating a subterranean formation, classified in class 166, subclass 307.
 - II. Claims 67-86, drawn to a composition, classified in class 507, subclass .

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the composition could be used as a treatment agent in a surface soil remediation or consolidation process. Also, it appears the composition would be useful in an above-ground cleaning or etching operation.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
5. This application contains claims directed to the following patentably distinct species of the claimed invention:
 - A. A method of inhibiting metal corrosion during a subterranean formation treatment operation, as exemplified by claims 1-23.

B. A method of reducing sludge formation during a subterranean formation treatment operation, as exemplified by claims 24-46.

C. A method of inhibiting the formation of emulsions during a subterranean formation treatment operation, as exemplified by claims 47-66

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Art Unit: 3676

6. During a telephone conversation with Robert A. Kent on November 18, 2005 a provisional election was made without traverse to prosecute the invention of Group I, Species A, claims 1-23. Affirmation of this election must be made by applicant in replying to this Office action. Claims 24-86 stand withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is deemed incomplete, and therefore indefinite, as it fails to include at least one positively-recited step. In this regard, the phrase "using an acidic treatment fluid" is not deemed to comprise a positively-recited step insofar as it is not clear what "using" comprises. Also, "using", per se, does not comprise or satisfy the intended result set forth in the claim preamble of "a subterranean treatment operation".

Claims 2-23 are similarly deficient insofar as they depend from claim 1.

Art Unit: 3676

Further regarding claims 3 and 4, the phrase "examples of which" (lines 13 and 14 of each claim) renders these claims further indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 5-8, 14-16, 19, 21 and 23 are deemed further indefinite in being drawn to improper Markush groupings. As noted in MPEP Section 2173.05(h), the use of the term "comprising" or "comprises" is improper in setting forth the Markush grouping. Accordingly, in line 1 or 2 of each of these claims, the transitional phrase "comprises" must be changed to, -- is selected from the group consisting of -- or -- is -- .

Claims 20 and 21 are deemed further indefinite with respect to the extraneous and subjective term "traditional" corrosion inhibitor, which should be deleted.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1, 2, 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Gardner et al in view of the publication to Freidli et al entitled "Novel New Ester Quaternaries ... Softeners" or Holmberg entitled "Esterquats".

Gardner et al discloses a process for acidizing a subterranean formation, while inhibiting metal corrosion during the acidizing treatment operation, e.g., by including a corrosion inhibitor

Art Unit: 3676

in the acidizing formulation. Such acidizing formulation or composition used in Gardner et al (note, e.g., the Abstract) further includes an emulsifying agent which may comprise “quaternary ammonium compounds having ester of amide linkages”. While Gardner et al does not explicitly describe or label such compound(s) as an “esterquat”, both publications to Freidli et al (note Structure 9 on page 402) and Holmberg (note Figure 8 on page 35) clearly illustrate and define “quaternary ammonium compounds having ester of amide linkages” as comprising “Amide Esterquats” (e.g., Holmberg, Figure 8 on page 35). Accordingly, it is deemed that the “quaternary ammonium compounds having ester of amide linkages” emulsifying agent component of the acidizing formulation injected in the formation acidizing process of Gardner et al inherently or necessarily comprises an “esterquat”, as called for in independent claim 1.

As per claim 2, the precise range of esterquat recited appears to fall within the corresponding range of the amide esterquat component in the process of Gardner et al (note the Abstract).

As per claim 11, the acid component utilized in Gardner et al comprises one or more of the listed acids.

As per claim 12, the acidizing formulation injected in the process of Gardner et al (note col. 4, line 67 – col. 5, line 18) clearly includes a surfactant, with an exemplary range of 1-20% by weight, which is deemed to fall within the broad range of 1-100% by volume recited in claim 13. It is further noted, as per claim 14, that the surfactant of Gardner et al includes one or more of the surfactants recited.

As per claim 17, it is noted that the acidizing process of Gardner et al (note col. 4, lines 51-66) further includes a solvent in the injected acidizing formulation or composition, such as an

Art Unit: 3676

alcohol, as recited in claim 19, with an exemplary range of 1-20 by weight, which is deemed to fall within the broad range of 1-100% by volume recited in claim 18.

As noted above with respect to claim 1, Gardner et al (note col. 6, lines 36-41; col. 12, line 66 – col. 13, line 26) clearly includes a corrosion inhibitor in their acidizing formulation, as called for in claim 20, and which may further comprise an acetylenic alcohol, as called for in claim 21.

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gardner et al in view of the publication to Freidli et al entitled “Novel New Ester Quaternaries ... Softeners” or Holmberg entitled “Esterquats”.

Although no particular pH value of the acidizing formulation utilized in the process of Gardner et al are set forth, it is deemed that such acidizing formulation will inherently possess a pH within the range(s) set forth in claim 9 and 10, especially since, in one embodiment, up to 28% by weight hydrochloric acid may be provided. Alternatively, to provide the acidizing formulation or composition with a pH in such range(s) would have been an obvious matter of choice or design to one of ordinary skill in the art in scaling-up or applying the Gardner et al process based on the characteristics or composition of a specific subterranean formation actually encountered in the field.

Art Unit: 3676

14. Claims 15, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gardner et al in view of the publication to Freidli et al entitled "Novel New Ester Quaternaries ... Softeners" or Holmberg entitled "Esterquats".

It is deemed that the surfactants listed in claims 15 and 16 are well known and conventional in the well stimulation or treatment art, and judicial notice is taken to that effect.

Accordingly, it would have been obvious to one of ordinary skill in the art to which the invention pertains, to utilize one or more of the surfactants listed in claims 15 and 16 as the surfactant or cosurfactant component in the acidizing formulation injected in the process of Gardner et al, based on, e.g., the availability or cost effectiveness of such surfactant(s), relative to other conventional or commercially-available oil field surfactants.

15. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gardner et al in view of the publication to Freidli et al entitled "Novel New Ester Quaternaries ... Softeners" or Holmberg entitled "Esterquats" as applied to claim 1 above, and further in view of Kenney et al (3,773,465).

Kenney et al (note col. 1, line 43-col. 2, line 40) discloses the inclusion of iodine, in the form of cuprous iodide, in admixture with a "traditional" corrosion inhibitor as an "intensifier" for the corrosion inhibitor.

Accordingly, it would have been obvious to one of ordinary skill in the art to which the invention pertains, to similarly include an iodine compound, such as cuprous iodide, in the acidizing formulation injected in the formation acidizing process of Gardner et al, in order to intensifier or enhance the overall effectiveness of the corrosion inhibitor component of the acidizing formulation.

Art Unit: 3676

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The cited references disclose process of treating or acidizing a subterranean formation comprising the use of exemplary treating agents and/or corrosion inhibitors, including "quats" of varying substituent groups.


17. Claims 3-8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Suchfield whose telephone number is 571-272-7036. The examiner can normally be reached on M-F (6:30 - 3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on 571-272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3676

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


George Suchfield
Primary Examiner
Art Unit 3676

Gs
November 19, 2005